

LISTING OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-11 (Canceled)

Claim 12 (New)

A machine for recycling raw material comprising solid inorganic and organic waste to obtain a moldable paste, comprising:

a reactor having an inlet above an interior space for receiving the raw material; and
heating structures in the interior space for heating and forming the raw material into a moldable paste, which then exits the reactor at an outlet below the interior space.

Claim 13 (New)

A machine according to claim 12, wherein said heating structures include a hollow wall chamber of said reactor for circulating a fluid heating medium and thereby heating said raw material in said interior space.

Claim 14 (New)

A machine according to claim 13, wherein said heating structures further include a conduit which traverses said interior space of said reactor and communicates with said hollow wall chamber, thereby circulating said fluid heating medium across said interior space, for further heating said raw material in said interior space.

Claim 15 (New)

A machine according to claim 12, wherein said heating structures include two hollow wall chambers of said reactor for separately circulating a fluid heating medium and thereby heating said raw material in said interior space.

Claim 16 (New)

A machine according to claim 15, wherein said heating structures further include a conduit having two ends which respectively communicate with said two hollow wall chambers, wherein said conduit traverses said interior space of said reactor for circulating said fluid heating medium between said two hollow wall chambers and further heating said raw material.

Claim 17 (New)

A machine according to claim 15, wherein said heating structures further include a plurality of conduits, each having two ends which respectively communicate with said two hollow wall chambers, wherein each of said conduits traverses said interior space of said reactor for circulating said fluid heating medium between said two hollow wall chambers and further heating said raw material.

Claim 18 (New)

A machine according to claim 17, wherein said conduits are disposed at multiple levels and multiple radial positions throughout said interior space, for guiding and mixing as well as heating the raw material as it passes from the inlet to the outlet past said conduits and through said interior space.

Claim 19 (New)

A machine according to claim 17, further comprising a pump and a heater for pumping and heating said fluid heating medium, said pump and heater being connected in series with each other and with said two hollow wall chambers and said plurality of conduits and thereby forming a closed circuit.

Claim 20 (New)

A machine according to claim 19, further comprising a reservoir for supplying and maintaining a level of said heating medium in said closed circuit.

Claim 21 (New)

A machine according to claim 20, wherein said closed circuit has a total volume such that when supplied by said reservoir with said fluid heating medium, sufficient fluid heating medium is provided to circulate through substantially all of said conduits and to substantially fill said two hollow wall chambers so that said raw material is heated by both said chambers and said conduits.

Claim 22 (New)

A machine according to claim 19, wherein said closed circuit provides said heating medium to said reactor at a lower portion of one of said two hollow chambers, and removes said heating medium at an upper portion of the other of said two hollow chambers.

Claim 23 (New)

A machine according to claim 17, wherein said conduits have a rounded cross-sectional shape.

Claim 24 (New)

A machine according to claim 23, wherein said inner reactor walls define a rounded cross-sectional shape.

Claim 25 (New)

A machine according to claim 17, wherein said reactor is generally conical, being wider at the top than at the bottom.

Claim 26 (New)

A machine according to claim 17, wherein said fluid heating medium is an oil.

Claim 27 (New)

A machine according to claim 17, wherein said fluid heating medium heats said chambers and said conduit to substantially 250-350°C for softening said inorganic and organic waste to form said moldable paste.

Claim 28 (New)

A machine according to claim 12, further comprising feeding equipment for receiving said raw material and feeding said raw material to said reactor.

Claim 29 (New)

A machine according to claim 28, wherein said feeding equipment mechanically forces said raw material through said reactor.